

**Trade Liberalization and Economic Growth in Nigeria (1982-2012)**

by

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ABSTRACT  
**TRADE LIBERALIZATION AND ECONOMIC GROWTH IN NIGERIA (1982-2012)**

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*The paper explicitly study the relationship that exist between economic growth and trade liberalization in Nigeria, previous research that was done in Nigeria on the same subject gave an interpretation of regression results of export trade variable that supports trade liberalization as a medium for measures that were ignored like import (Obadan, 2015) . The research included variables like Imports, Inflation, Export, Foreign Direct Investment and Exchange Rate. The methodology used was ordinary least square (OLS). Results acquired show positive connection between trade liberalization and Economic Growth, but inflation is an exception the connection between economic growth and inflation is negative. The effective relationship that other variables has with GDP shows that when the level of trade liberalization is increasing it benefits the economy of Nigeria (Mtengwa, 2014). The outcome is straightforward coming from different levels of economic growth and trade liberalization. Which brought about a conclusion that the link between economic growth and trade liberalization is positive.*

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FIGURE 5: GDP VERSUS INFLATION

### **List of Abbreviations**

BLUE-	Best Linear Unbiased Estimate
BOP-	Balance of Payment
CBN-	Central Bank of Nigeria
DW-	Durbin Watson
ECM-	Error Correction Model
ECOWAS-	Economic Community of West African States
EPZ-	Export processing Zone
FDI-	Foreign Direct Investment
GAAT-	General Agreement on Trade and Tariff
GDP-	Gross Domestic Product
ISI-	Import Substitution Industrialization
OLS-	Ordinary Least Square
OPEC-	Organization of Petroleum Exporting Countries
SAP-	Structural Adjustment Programme
UN-	United Nations
WHO-	World Health Organization

## Chapter 1

### Introduction

*“Africa's development out of poverty will rely upon it creating more prominent linkages with the world economy through exchange of goods and services”- Kofi Annan, former UN Secretary General*

In 1980s, trade liberalization process and economic restructuring that is market oriented that began then was made stronger in the 1990s (Anderson, 2014). The concept that liberalized trade has a massive impact on economic growth is not a new concept. Numerous examinations have exposed the positive connection between the degree of a nation's economic growth and the pace of its receptiveness to international trade (Adenugba, 2013). The main reason for the difference in results obtained is because of the different methodology that was used in the studies.

What has been noticed from numerous studies is that despite the fact that import and export are important in the promotion of economic growth, a lot of researchers are more concentrated on Import (Sinha, 2013). Nigeria, which is a developing country, rely more on imports from abroad, therefore the effect of import on the process of growth ought not be ignored. Nigeria has experience different exchange rate regimes which in a sense can have great implication for economic growth and trade liberalization connection (Oyejide, 2016).

Trade liberalization has been a driving force for countries of the world, almost all the countries around the world that have open their borders to trade with other countries of the world has experience a great deal of growth in their economy. Trade liberalization began in the year 1947, the end of World War II, which is also the origin of General Agreement on Trade and Tariffs (GATT). UN agency was negotiated by 23 countries of the world in 1947 of that, twelve are industrial countries and the rest 11 are third world or developing countries. The main point of interest of the UN agency was reducing barrier to trade to the least minimum. In the year 1994 the World Trade Organization (WTO) came in to take the place of the GATT (Obadan, 2015)

In real sense of things, the most reason of trade liberalization is to permit countries to export those products and services that they will turn out expeditiously and then go ahead and import the services and goods in which they turn out inefficiently. The statement made above is about the speculation of comparative advantage. Which is from the clarification about exchange being the "motor of development" and the impact of exchange on the economic growth of an economy are acknowledged inside principles of comparative advantage. On a more serious

note, the idea of comparative advantage came up in the 19<sup>th</sup> century trade models related to David Richardo and the famous John Stuart Mill, that later became trade theories placed within the proportion theory of Hecksher-Ohlin (1933), Rybzsnski (1955) and Stolper-Samuelson (1941) impacts.

Nigeria as a country has picked up the thought of ‘openness is great for growth’. Top officials in government offices view trade as an excellent engine for the growth of an economy. Based on the forecast of the observed theories of trade, the necessary purpose to form during this introduction is basically about the problem of developing countries in the general view and specifically looking at Nigeria. The main problem in this sense is not about whether or not to trade, however it is about what they are to trade and the terms of trade that ought to happen with the countries that are developed. (Oviemuno, 2015). There is another question which is, what level of growth/development does a country need to adopt trade liberalization in order to make sure there is economic development? Which is why the focus of this work shall thus be on investigating if there is any impact of trade liberalization on economic growth, the level of the relationship that exist and therefore the impact of trade liberalization on economic growth in Nigeria.

## **1.2 OBJECTIVE OF THE STUDY**

The overall objective of this study is to see the impact of trade liberalization on economic growth of Nigeria. Therefore, the precise objectives are:

1. To examine the relationship between imports and economic growth in Federal Republic of Nigeria
2. To determine the relationship between export and economic growth in Federal Republic of Nigeria
3. To evaluate the impact of foreign direct investment on economic growth in Federal Republic of Nigeria
4. To examine the relationship between rate of exchange and economic growth in Federal Republic of Nigeria

## **1.3 RESEARCH QUESTION**

At the end of this research the following question are expected to have been answered, these questions are based on the research objective that was stated and thus are the questions:

1. What is the nature of the relationship between imports and economic growth in Federal Republic of Nigeria?

2. What is the nature of the relationship between exports and economic growth in Federal Republic of Nigeria?
3. What is the impact of foreign direct investment on economic growth in Federal Republic of Nigeria?
4. What is nature of the relationship between exchange rate and economic growth in Federal Republic of Nigeria?

#### **1.4 STATEMENT OF RESEARCH HYPOTHESIS**

Based on the objectives of this research, the subsequent hypotheses are developed to guide the research:

##### **Hypothesis 1:**

**H<sub>0</sub>:** There is no significant relationship between imports and economic growth in Federal Republic of Nigeria.

##### **Hypothesis 2:**

**H<sub>0</sub>:** There is no significant relationship between exports and economic growth in Federal Republic of Nigeria

##### **Hypothesis 3**

**H<sub>0</sub>:** There is no significant relationship between Foreign Direct investment and economic growth in Federal Republic of Nigeria

##### **Hypothesis 4**

**H<sub>0</sub>:** There is no significant relationship between exchange rate and economic growth in Federal Republic of Nigeria

#### **1.5 SIGNIFICANCE OF THE STUDY**

This dissertation is intended to build on the research done by other authors on the reason for trade liberalization and its effect on the growth of an economy. Policies that are needed to be in place for a faster economic growth is also shown in the dissertation. At the level of individuals this dissertation will give them the idea of how the government make programs and policies, and the best way to react to the polices put forward by the government. For the government, this dissertation will make it easier for them to respond and be responsible to what the people need. For researchers on economic growth and trade liberalization, this dissertation will be seen a challenge to them so that they can research more on the field of economic growth and trade liberalization.

## **1.6 LIMITATION OF THE STUDY**

The decision of period used in this dissertation depends essentially on the accessibility of data, otherwise a broader examination would have been taken. The believe is that this dissertation is in no way, shape or form a comprehensive treatment of the link between economic growth and trade liberalization in Nigeria. Notwithstanding the endeavours made in bringing together the macroeconomic variables, some may at present be overlooked. The examination will likewise be constrained by the disparities in data from different local and international sources, and this may as well constrain the discoveries.

## CHAPTER 2

### 2.1 Conceptual Framework

Trade Liberalization is the level to which an economy is dependent on financial flow and international trade, it tries to get a measurement of the level of international competition a country has in the global market. (Bacha, 2012). It is usually accepted that increased openness with reference to capital flow and trade are helpful to a nation (Jenkins 2015). Increased level of openness brings about bigger integration into international market. Economic growth and integration are helpful to countries that are still developing, but sometimes there also are risks attached (Iyoha, 2012). Trade openness is understood to incorporate export and import, policies of exchange rate, subsidies and domestic taxes, alternative restrictive policies and competition, policies of trade, the character of the structure, the shape of state, and therefore the general identity of culture and establishment (Tekin, 2012)

### 2.2 THEORETICAL FRAMEWORK

The topic of whether trade liberalization would cause development is an old inquiry, that has undergone discussion between protectionist and traders over time from the classical economic expert, from John Maynard Keynes to John Stuart Mill and lots of others (Ahmed, 2001). Lots of theorist from each thesis have affected the policies in several nations and at numerous stages of growth and development, there has additionally been a large policy discussion concerning what represents bad policies or good policies for these nations, particularly for countries that are still developing like Nigeria (Thomas, 2012). Should these nations utterly open their border to international trade? on the other hand, should it be temporary, or shield some of the companies from the global market forces. Maskus (2016) extensively mentioned these arguments as follows:

#### 2.2.1 First Argument: Economies Will Grow Faster if they Protect Domestic Industry from Import Competition:

This is a summed up explanation of the theory of industries that are still in their early stage of development which uncover that the part of the economy that is into manufacturing is not well developed and should be secured from competitions so as to possess the inducement to invest capital, learn the way to provide product, cash in economies of scale through giant scale production and secure distinctive or products that are innovative which may be oversubscribed on the markets worldwide (Lopez, 2005).The biggest utilization of the argument of infant industries separation form international markets became apparent from the obvious utilization

of Import substitutions policies in countries that are still in the process of development (Cherunilam, 2008).

A policy that is for Import substitution for industry purpose (ISI) has to do with raw materials of the economy to extend resources into producing. The claim of world health organization (WHO) is that developing countries faces two basic issues, the first is their standing as exporters of primary commodities made them prone to world swings commodity costs, which over a long-term, the cost of commodities would decrease relative to producing prices and price of recent technologies (Olaifa, 2013). Secondly, as a result of countries that are still developing having high growth rates and supply of abundant labour, it might be troublesome to soak up employees into primary production. Instead of awaiting comparative advantage to push resources into production that is labour intensive, it might be even better to force industry through import substitution for industrialize purposes (ISI) policies (Ajayi, 2003). Within the 19<sup>th</sup> century such programmes became common throughout Africa, they are still noticeable in several countries.

However, the question is whether import substitution for industrialization (ISI) restricted growth has, several alternative factors were put to work. What appears clean is that most nations have not carried out their duties properly in terms of technological improvement, and they have failed to keep up with product adaptation and innovation, has distorted and inefficient manufacturing and agricultural sector, their performance in the development of human capital, infrastructures and physical capital is below standard. Thus, countries pursuing import substitution for industrialization (ISI) program has experienced restrictions in growth (Chontanawat, 2006).

### **2.2.2 Second Argument: Countries Will Grow Faster If They are Open to International Competition**

This argument basically deal with trade-reform programmes which has to do with intensive easing of investment and trade barriers, unification of domestic charge per unit and tariff rates, ejection of production and consumption subsidies, and freeing of business and privatization of enterprise that the state possess (Ajayi, 2003). This is the motive behind the loans of the world bank to fast track IMF packages that need political economy structural improvement. It is additionally a good plan, however its translation into trade liberalization for the most part started with the reform in Chile within the 70s which was advocated by the “Chicago School” of economists (Babula & Anderson 2008).



A somewhat completely different part of this approach is referred to as promotion of export, that is the policy used by most part East Asian and Western countries. These methodologies are not basically inside the sense of free competition (Hye, 2016). There are several samples of secure and sponsored companies or industries, most of this conservation was created in order to give support to industries that are still in their early stage of development to mature and export. The main element of export promotion program is to support exports, since it is executed beneath import substitution for industrialization (ISI) programs (Brückner & Lederman, 2012).

### **2.2.3 Theory of Customs Unions and Free Trade Areas.**

There had been variety of trial to exchange goods and services through the formation of territorial and international exchange agreement within the variety trade areas and customs unions. Trade areas could be a kind of economic union during which all members take away tariffs on every other product, whereas at an equivalent time every member is independent in putting commerce policies with those who are not members (Asfaw, 2014).

This agreement conjures up with international trade among members whereas profits of customs payoff that was created by regular outside taxes are distributed between members based on the method that was agreed. The individuals from an exchange territory will concede to individual tariffs and distinctive trade limitations on different countries. In an exceedingly free trade area, barrier of trade is being decrease inside the trading area (Kennedy, 2003). However, there is no general tariff from outside. Additionally, there is creation of trade in free trade areas, however the degree of exchange redirection is most likely going to be much less, alongside the assumption that “on restricted economic grounds, areas of free trade are superior” (Ahmed, 2001).

Most time, the rule of the game is spelt out inside the free trade zone, this can be to see trade product created or originated within the free trade area to forestall trade deflection. A good example of this kind of union is the Latin America Trade Association (LAFTA) fashioned in 1960 with eleven countries (Asongo, Jamala, Joel and Waindu, 2013).

A union could be a variety of economic incorporation during which tariffs between members are detached and therefore the group agree on a typical business policy. Additionally, the group act in a united manner within the intercession of all the agreement of trade by those who are non-members (Akeem, 2011). Trade is created by custom unions, however, conjointly send it from lower price suppliers to those who supply it at higher cost inside the union. Which bring

us to a question of whether the advantages of exchange creation go beyond the limit of price difference in trade. Apart from trade difference and trade creation, custom unions may produce other necessary effect related to making the market wide (Afzal and Hussain, 2010).

### **2.3 Models of Export-led Growth:**

Kaldor (1970) discovered what is known as the export-led growth model planned on the idea of collective move and took from the idea that exports are the most significant component of demand. Models of trade counsel that the movement towards trade liberalization will quickly increase the speed of growth because of the gains in the short run from the resource allocation, which might show a positive relationship between changes in trade liberalization and GDP growth. Export led growth has three main model, which are mentioned below:

- i. Neo-classical supply-side model
- ii. The balance of payment constrained model constrained model
- iii. The virtuous circle models.

#### **i. The Neo-classical supply side model**

This model brings to sight the association between exports and growth, under the assumption that export sector has positive externalities on the non-export sector, thanks to contacts from abroad which are the outside competition, and second that the part that is into exporting includes a higher rate of productivity when compare to the non-export sector. Therefore, the level of exports in GDP, and the growth of export, is very important for overall performance of growth.

The first to demonstrate a proper model of this kind to clarify the connection between export and output growth is Feder (1983). The export growth sector has output which is thought to be a function of capital and labour and also the output of the sector that is for exports. And the quantitative relation of various marginal productivities within the two sectors, which is meant to move away from one by an element d.

Feder put the model to test by taking a sample of nineteen countries that are semi-industrialized and a bigger sample of thirty-one countries during the period of 1964 to 1973. His findings were that no relationship exist between the export sector and the non-export

sector which is a proof of externalities. The mentioned externalities are a part of the gains from trade, that are related to the spread, and the flow of ideas from abroad about each technique of production and management practices that is well organized. The cross-sectional study on exports and growth brought about an assumption that all countries in a very large sample fit in to identical model, with identical constant parameters which link exports and growth. In reality, this can be extremely uncertain, in fact once statistical studies are carried out for every single country, we realize that from the results export and growth is way weaker (Taylor, 2016).

**ii. The Balance of Payment Constrained Model**

This may be defined as the record of all economic dealing that is well organized between a country and the outside world throughout a period. Economic transactions embrace the transactions that has to do with the transfer of possession or title. The balance of payment makes use of the idea of bookkeeping in its accounting standard. This implies that items of debit should be balance by credit entry that correspond to it on a table of balance of payment (BOP) (Dutta & Ahmed 2012).

Generally, based on the principle of bookkeeping, any dealings that offers a rise to a receipt is regarded as a credit. Ratios of deficit to GDP to over two to three to end up making the international money market scared and every borrowing ought to be repaid. According to Nureldin (1995) export are great base on the demand aspect as a result of the sole element of demand that has interchange to acquire the import necessities for growth. It permits all the different element of demand to increase quicker in a manner that investment-led or consumption-led growth doesn't.

Nureldin (1995) applied this model to Africa with the intention to differentiate the level of experience of countries that are experiencing slow growth with those that are experiencing quicker growth over the period of 1970 to 1990. He utilized an extended model, that conjointly has and inclusion of the effects of terms of trade and the effect of capital flows.

**iii. Virtuous Circle Models of Export-Led Growth**

These models are in line with growth theory and theory of trade that forecast the long-haul merging of living standard all over the world. A straight forward model that is

driven by export because of the major element of demand that is autonomous, assumes that:

- a. Output growth could be a function of the growth of export.
- b. Export growth could be a function of price competitiveness and growth of foreign financial gain.
- c. Price competitiveness could be a function of productivity growth and the growth of wage.
- d. Productivity growth could be a function of the growth of output.

From what we have seen, we can draw a conclusion that trade liberalization does not essentially imply quicker export growth, however in practice both appear extremely connected (Anderson, 2014). Impact of trade liberalization on economic growth in all probability acts primarily from rising potency and aspiring export, that has powerful impacts on demand in an economy. There are many totally different studies of the impact of trade liberalization and economic growth, the exact mechanism by which export development impacts on trade development does not appear to be constantly direct to imagine or qualify (Echekoba, 2015).

## **2.4 TRADE LIBERALIZATION POLICIES IN NIGERIA**

### **Trade Policy Objectives**

Nigeria's national trading policy is ready toward encouraging the assembly and the circulation of items and benefits so as to satisfy the international and the domestic markets furthermore on speeding up and achieving economic growth. It is accepted that the national trading policy should be in partner with domestic measure to foster innovation, transparency, forgone conclusion, rule of law and improve competition among the countries. Antagonizing this philosophical background, a number of Nigeria's trading policy objectives embrace the following:

- a. Bringing together the Nigerian economy into the worldwide market system.
- b. Diversification and promotion of exports in each tradition markets and markets that are not traditional.
- c. Liberalization of the import regime to reinforce aggressiveness of industries that are domestic.

- d. participating in the negotiations of trade to reinforce the action of national economic profit within the three-way mercantilism system, furthermore as bilateral and regional arrangements.
- e. Promoting transfer, adoption and acquisition of technologies to make sure there is competition among export-oriented industries.
- f. Promotion of regional cooperation and integration.

In order for these objectives to be achieved, the government of Nigeria has tried to form a framework that favours free play of economic growth to ensure non-public enterprise and freedom of the economy in areas like new technologies, new investments, increased producing worth and increasing exports. The role of the government is that of a helper promoting competitiveness, rising physical infrastructure as well as forming policies that are effective for export growth (Gbadebo and Okonkwo, 2009).

## **2.5 EXPORT AND IMPORT POLICIES**

There was modification in the pattern of Nigeria's export within the early nineteen seventies once crude oil export when higher than agricultural exports, that till that time dominated the volume and value of export. Right from that time oil has accounted for more than 90% of the earnings from export in Nigeria. The concern now in the policy of export is a way to diversify the economy's export base (Mtengwa and Babiker, 2014). The policy objective of exports are therefore centred on increasing the marketability of the export commodities of Nigeria through the diversification of products, up support services to exporters and industries that are export oriented, consolidating existing markets for exports, making new markets, increasing and diversifying exports of factory-made product that rely upon natural resources wherever Nigeria includes a comparative advantage, and inspiring the adaptation and acquisition of technologies that are environmentally friendly to make sure that products from Nigeria are up to international standards (Gokmen and Temiz, 2010).

The exact objective of the policy of import is to liberalize the regime of import while promoting the potency and aggressiveness of domestic industries. The government is trying to liberalize and ease the procedure of import and do away with quantitative restrictions on listed merchandise and services, while not putting in danger the interest of domestic producers (De Silva, Malaga and Johson, 2014). Impactful machinery has been placed in a situation to ease the problems. An efficient and clear administration of the tax system, administration by

customs and industrial court are in place to reduce the level of corruption inside the Agencies of the Government (Gokmen and Temiz 2010).

The government conjointly displayed opportunities for negotiations that can promote trade through bilateral development, trade interests and agreement. The reason for this is to make sure that Nigeria derives plenty of benefit taking part in negotiation through creating markets that is favourable access to market conditions the export products at the regional and bilateral levels (Granger, 1969).

The nation endeavour to require total advantage of the privileges and opportunities through taking part in international trade relations, particularly inside the sub-region of Economic Community of West African States (ECOWAS). Below the agency programme, the Nigerian Government is prepared to market development and cooperation altogether areas of the economy and improvement of the quality of living of the people of the Nigeria (Iyoha, 2012).

## **2.6 EMPIRICAL LITERATURE**

Empirical proof from the experience of country that are still in their developing phase has brought to light the accepted option of trade liberalization, ignoring the significance of long haul advancement of supply and therefore the impediment of economic growth in the capacity build-up (Kennedy, 2003). Additionally, devaluation of currency has its opposing effects on productivity. Additionally, it failed to think about the importance of capital merchandise importation and crude materials in the improvement of capital used and increment of export. The prevailing experimental writing does not offer vivid proof of the link between trade liberalization and growth.

Dollar (1992) came out with a vital presentation to the dialogue of trade and growth. The definition provided by the author is on two diversions

- i. An occasional level of assurance, therefore of trade distortions and
- ii. Exchange rate that is stable in order for incentive to stay stable over time.

Plenty of empirical research have studied connection between trade liberalization and Economic Growth. Looking at the work of Sachs (2015) and Romer (2013) gave help to the growing effect of trade liberalization. Warner and Sacks looked at the impact of trade liberalization on the level of growth of 122 countries; the findings from their study is that open countries possess high rate of growth when compare to countries that do not open. In the same

vein, Romer and Frankel found out that trade liberalization created high income level in a study of 63 countries in the year 1985.

Kavoussi (2012) carried out a study of seventy-three 3<sup>rd</sup> world countries to show the level of contribution of trade liberalization to economic growth. His findings from the study is that the booming economic growth that these countries enjoyed is linked to the high level of export growth for both the low and the middle-income nations. The impacts seem to be decreasing based on the degree of financial advancement of the nation. The findings from his study supports the study conducted by Chenery (2011) which exposed the fact that for quite some time in a lot of developing countries, no country experienced sustained growth rate that rise above the export growth. Another finding is that the developing country's growth rate right from 1950 is better connected with export level than compared to any economic indicator.

Massel (1992) carried out an investigation on the pattern of financial development of a few nation utilising regression methods. What they observed is that a high relationship exists between exports trade liberalization and economic growth. Their suggestion was that nations should target a 2.5% increase in export activities in order to get a 1% increase in the economy. Directly on the Nigerian economy, Ogbokor (2011) carried out a study on the economic impact of exporting oil on the economy of Nigeria. Utilized the technique of OLS and observed that economic growth behaved in the way that was expected to the changes in the variables of the model. He findings was that when export increase by 10% it will make the economic growth to increase by 2%.

Egwaikide (2012) studied the qualitative impact of trade liberalisation on economic growth from 1960 to 1983. He used simulation experiment and found out that when exports increase by 75% the GDP will increase by 1.7%. he concluded with a recommendation that export need to be promoted so that GDP growth will be enhance in Nigeria.

Obadan (2015) emphasised on the importance of trade for improvement in economic growth and argues that when the interest for foreign products increase it will prompt a general growth in output through increase in income and employment from the export sector.

Morgan (2015) did an empirical study on the effect of trade liberalization on 70 countries. Utilizing a dynamic panel framework and three diverse symbolizers of global exchange, the findings from their study is that a significant link exist between trade liberalization and economic growth in Nigeria.

Based on earlier argument, there exist a link between trade liberalization and economic growth, the impact of trade liberalization may be a gradual process. This perspective is proved by Dollar (1992). They carried out a study on the relationship between trade liberalization and economic growth, they put forward that openness to trade liberalization increase the rate of economic growth. The great speed of economic growth can appear to be a transition when compare to a move leading to an alternate rate of growth. The time rate before the transition can be a decade or more than that. That is why it makes more sense when we say trade liberalization increase the rate of economic growth rather than seeing it a sudden adjustment to real income.

A perfect example of a country that was successful in harnessing the gains from trade liberalization is china. Fu (2014), carried out an examination on the role of trade liberalization on the economic growth of China, the findings was that gain from trade liberalization normally come like productivity gain, for example trade liberalization can make a country better or the productivity of a firm via the effect of competition.

Lin (2012) carried out a research on the contribution of trade liberalization on the economy growth of China, what they found out is that the studies that was conducted before in trade liberalization and economic growth gave less regard to the contribution of exports to the growth of GDP by ignoring the indirect effect of exports on domestic consumption, imports, government expenditures and investment. The came out with a new method of estimation and discovered that 10 percent increase in the level of export will lead to a 1 percent increase in GDP in China in the year 1990, putting into consideration of indirect and direct contribution.

It is unfortunate that wealth that was created via trade liberalization has not been properly put to good use for economic growth in Nigeria. This gives a vivid explanation for the reason why development in the country has not been obvious irrespective of the huge advantage from trade liberalization. Arodoye (2014) argued that Nigeria's gains from export were not channelled effectively to economic growth because of the presence of corruption in Nigeria, precise lack of accountability and rent seeking especially from 1966 to 1999 which was the time Nigeria was under the military dictatorship.

Mododou (2007) in a paper with the title. 'The impact of trade liberalization the growth of the economy of Gambia,' made a great effort to analyse the impact of trade liberalization on the economy of Gambia. Utilizing ECM (error correction Model) that is meant to capture the long run and short run impact of the variables within the model), he made use of the neoclassic model of growth and static information from the year 1970 to 2004. The result he got from this



research was that the terms of trade in the republic of Gambia was not favourable throughout the duration of study as the level of import outweigh the level of export came to a conclusion that if the Republic of Gambia is to profit additionally from trade liberalization, it will verify its Macroeconomic policies and develop enabling atmosphere for investment in the terms of the rights of property, necessary route to credits, provide stable power( electricity), proper roads, security and telecommunication. The government ought to direct its economic policy because it is the greatest block to non-public investment.

With the aid of an equilibrium process to make an estimation of the economic condition model in their research, Nwafor (2017) made use of trade liberalization as a predictor variable in Federal Republic of Nigeria. The researchers discovered that the impact of trade liberalization for various social units is different when comparing one household to another household. Whereas positive impact was discovered by households in the urban centre, trade liberation wedge possesses a negation from household from the rural areas, it was characterized primarily labour and land for the production of Agricultural output.

Chaudry (2010) during an analysis which is titled ‘ ‘ the exploration of the link between trade liberalization, economic growth and human capital: with proof from West Pakistan. The use of co-integration and granger relation method of data in time series econometric was used, for time ranging from 1972 to 2007. The outcome of the analysis show that in the model of growth there is short run and long run relationship. It therefore means that education and trade liberalization could also be possible with continuous economic growth. The conclusion from the study is that there is causality from trade liberalization to economic growth and to human capital. The findings also are in line with the theories of growth and literatures in economics.

The impact of trade liberalization on the economic growth of East Pakistan from the period 1980 to the year 2010 was analysed in a critical manner by Ibne (2012), the OLS regression curve that was calculated indicated the positive impact of trade liberalization on economic growth, although its impact on inflation was insignificant.

The increase in government revenue made possible by trade liberalization within the period 1970 and 2009 in the Federal Republic of Nigeria was analysed by Nwoso (2016) the finding of the authors is that trade liberalization was verified to be the best indicator of the revenue of government from the selling of goods and services, this study discovered a negative link between the rate of exchange and government revenue from the selling of economic products. The expression and execution of political economic policy has been suggested by the writers

as an important move to boost the bringing together of trade alleviation to government revenue in Federal Republic of Nigeria.

In the same vein, the impact of trade liberalization on the growth of an economy throughout the structural adjustment programme (SAP) time horizon (Beginning from the year 1986) in the Federal Republic of Nigeria, was critically analysed by Ibraheem (2015). With the aid of trade openness as a proxy to represent trade liberalization, the calculable OLS regression model indicated that openness to trade impacted negatively on economic growth in the time of the Structural Adjustment Programme (SAP) era. SAP as a variable for indication impacted positively on economic growth, trade liberalization failed to add to the growth of an economy. It impacted negatively and vitally on the economic growth of Nigeria in the time of the structural adjustment programme (SAP).

## **2.7 Conclusion**

In the review of literature, theoretical and empirical background of the research was discussed, the literature review began with conceptual framework, which provided a brief discussion on trade liberalization. The theoretical framework was discussed, which provided theories of trade liberalization that has a close link to economic growth. Some arguments on whether protecting domestic industries from international competition will lead to economic growth or not. Also discussed are theories of custom unions and free trade areas in Nigeria. What followed next is the model of export-led growth, which discussed the neoclassical supply-side model, The balance of payment constrained model and the virtuous circle model. the chapter 2 ended with an empirical literature review on the trade liberalization and economic growth in Nigeria. The research hopes to fill the gap in trade liberalization and economic growth in Nigeria.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 INTRODUCTION

Chapter 2 gave a review of the literature that is relevant and the theoretical background for impact of trade liberalization in Nigeria and other countries around the world. That chapter helped in selecting the right research methodology as well as how the way the study should be approached, the main discussion of this section is the approach to the research. This research is structured in this manner. The first section describe the variables, and then the model specification. This section shows the research approach and methods that helps in answering the research questions and then helping in the achievement of the objective of the research. The main reason for choosing the research method and our data collection method interpretation and analysis will be discussed.

#### 3.2.1 VARIABLE DESCRIPTIONS

**3.2.2 GROSS DOMESTIC PRODUCT (GDP):** The overall value of goods and services that is produced over a period in a country is known as the gross domestic product. When there is growth in GDP it signifies that the economy is experiencing growth. Therefore, we can use GDP to proxy economic growth of an economy (Jhingan, 2003).

**3.2.3 IMPORTS:** is the total estimation of goods and services that is bought from other nations. When the imports in an economy is high, it anticipated that there will be low rate of economic growth in that economy. Import has a negative impact on the economic growth of a country since it is a form of leakage in the economy (Johansen, and Juselius, 1990).

**3.2.4 EXPORT:** is the total number of good and services that is sold to other countries. The more the export in an economy the more the economic growth in that economy, reason being that export basically means that there is high level of production, high level of trade as well as high level of income (Jhingan, 2003).

**3.2.5 EXCHANGE RATE:** what this variable represent is the exchange rate of the Nigerian currency, which is Naira, to the currencies of other countries (foreign currencies) along with the numerous policies that Nigeria has practiced. The expectation is that when the exchange of Naira is low, it will lead to an increase in the volume of trade as well as a higher level of growth rate in Nigeria (Bahmani, 1993).

**3.2.6 FOREIGN DIRECT INVESTMENT:** the level of investment made by foreign sector in Nigeria is measured with foreign direct investment. The expectation is that the foreign direct investment should have a positive or direct connection with economic growth in Nigeria (Smith, 1776).

**3.2.7 INFLATION RATE:** this is the general increase in the price of goods and services in a country. Inflation discourages or encourage trade, that makes it role in international trade very important. When the rate of inflation is low in Nigeria foreign countries will be motivated to trade with Nigeria, but when the rate of inflation is high in Nigeria, it is seen as a discouragement to trade with Nigeria. If the rate of inflation in Nigeria is high for a certain period, its export compared to the world market will be less competitive. This can be seen in the reduction in export orders, few jobs and lower profits, this will as well worsen the Nigeria's trade balance. When export falls, it may lead to negative multiplier on employment and national income (Jhingan, 2003).

### **3.3 MODEL SPECIFICATION**

In the model specification the dependent and independent variables that will appear in the model is determined. This show the link between the dependent and independent variable in a mathematical form.

Economic growth is the dependent variable proxied by Gross Domestic Product (GDP), the independent variable that are carefully selected in order to have a great impact on Economic Growth based on trade liberalization are: Import (IMP), Export (EXP), Foreign Direct Investment (FDI), Exchange Rate (EXR) and Inflation Rate (INF). A functional relationship between these variables can be expressed as follows:

$$GDP = f(IMP, EXP, FDI, EXR, INF) \dots \dots \dots (3.1)$$

Meaning of the variables:

GDP = Gross Domestic Product

IMP = Import

EXP = Export

FDI = Foreign Direct Investment

EXR = Exchange Rate

INF = Inflation Level

Below is the mathematical form of the functional relationship expressed above:

$$GDP = \beta_0 + \beta_1 IMP + \beta_2 EXP + \beta_3 FDI + \beta_4 EXR + \beta_5 INF + \varepsilon \dots \dots \dots (3.2)$$

From the above:

$\beta_0$  = intercept

$\beta$  = Coefficient of the variable

$\varepsilon$  = The error term

### 3.4 ECONOMIC A PRIORI EXPECTATION

The consistency of the independent variables that appear in the equation with economic theory is shown here. That shows whether the sign of the parameters conforms with economic theory. The foundation of this based on theoretical framework of the subject at hand. For this dissertation, there is a suggestion of link between the variables and economic growth which can also be referred to as a priori expectation. The a priori expectation is presented on the table 3.1 thus:

Table 3.1 A Priori Expectation Summarized

No:	Independent Variable	Dependent Variable	Expected Signs
1	Import	GDP	Negative
2	Export	GDP	Positive
3	Foreign Direct Investment	GDP	Positive
4	Exchange rate	GDP	Negative
5	Inflation	GDP	Negative

Source: Author's

When the result we obtain from our regression have values or signs that are different from what we expected or if it does not follow up the a priori expectation then we reject it, but we can only fail to reject it if there is a benefit of the doubt that economic theory does hold in that instance.

### **3.5 SOURCES AND NATURE OF DATA**

The data range for this dissertation is from 1982 to 2012, which is a period of 30 years. Annual data on GDP, Import, Export, Foreign Direct Investment and Inflation is what the study used. Secondary data is the nature of data used for this dissertation, and the data was extracted from Annual Report, Statistical Bulletin and Statement of Account published by Central Bank of Nigeria (CBN, 2014) and all the variables used in the research are measured in millions.

### **3.6 METHODOLOGY OF DATA ANALYSIS**

In choosing the right technique in all research the technique is dependent on the objectives and the research problem of the research. The multiple regression analysis using Ordinary Least Square (OLS) is the method of data analysis that is used in this dissertation. The Ordinary Least Square in multiple regression is mostly used because it is assumed that the OLS provides a good property of Best Linear Unbiased Estimate (BLUE). In regression analysis the OLS is the most widely used based on the characteristics described above (Kim and Lin, 2009).

#### **3.7.1 EVALUATION OF THE MODEL**

The decision on whether the coefficients that are estimated are statistically significant and theoretically meaningful is what the evaluation of the model is about. For the sake of this dissertation, the entire result obtained must satisfy both the econometric criterion and the statistical criterion (Agbeyegbe, 2004).

#### **3.7.2 FIRST ORDER CONDITION (STATISTICAL CRITERION)**

The aim of this is to make an evaluation of how the estimated coefficients of the model are reliable statistically. In this situation we make use of the, F-statistic, t-statistic, Coefficient of determination ( $R^2$ ) as well as Adjusted  $R^2$ .

#### **3.7.3 THE F-TEST**

In order to test for the presence of a significant impact the independent variables have on the dependent variable we use the F-statistic. There is a significant relationship between the dependent variable and the independent variables in a regression equation if the F-calculated is greater than the F-critical. On the other hand, there is no significant relation between the dependent and independent variables in the regression equation if the F-calculated is less than the F-critical.

#### **3.7.4 THE T-STATISTIC**

The determination of the statistical significance and reliability of the coefficient of the variables in the model is the reason why the t-test was applied. In this case the t-value of all the coefficients are examined in contrast with 2.04. For us to fail to reject the coefficient it has to be higher than 2.04. That means that the variable that possess this characteristic is significant and can also be used for forecasting and also can be used for inferences.

#### **3.7.5 THE COEFFICIENT OF DETERMINATION ( $R^2$ ) AND THE ADJUSTED $R^2$**

The measure of goodness of fit is utilized in checking the explanatory strength of the independent variable on the dependent. The level of variance in percentage in the dependent variable that can be described by the variation in the independent variable. That means that the higher the  $R^2$  the more the changes in the dependent variables can be explained in the model. That means the regression model is good based on the technique of Ordinary Least Square. The fact that the  $R^2$  shows the level of variation of the dependent variable that has been explained by the independent variable is why it is called the coefficient of determination. In other words, if the coefficient of determination is equal to one it means that the explanation of the dependent variable by the independent variable is 100% which shows that the regression line is a perfect fit. But in a situation where the coefficient of determination is equal to zero that means the changes in the dependent variables cannot be explained by the explanatory variable, that means that the closer the  $R^2$  is to 1 and the higher the  $R^2$  the better the model fit the data, note that for the explanation given above, it goes also for the adjusted  $R^2$

#### **3.7.6 SECOND ORDER CONDITION (ECONOMETRIC CRITERIA)**

The main target of this is to confirm the assumption that the econometric method that is used is properly satisfied or not properly in the case based on the test carried out. They show how reliable the statistical criteria are and show if the variables show any sign of consistency of unbiasedness. The validity of autocorrelation disturbances is also tested, in the testing of autocorrelation we used the Durbin-Watson (D-W) statistics (Dickey and Fuller, 1981).

#### **3.7.7 DURBIN-WATSON (D-W)**

First order autocorrelation is tested using the Durbin – Watson Statistic, and the following are the properties:

- a. We can accept that there is no autocorrelation in a given function when the Durbin-Watson statistic is equal to 2 approximately. ( $d^*=2$ )

- b. There is existence of perfect autocorrelation when the Durbin Watson statistic is equal to 0. In other cases, there is existence of positive autocorrelation when the Durbin Watson statistic is less than two but greater than zero ( $0 < d < 2$ ). There is existence of stronger autocorrelation the more the Durbin Watson statistics approaches zero.
- c. There is existence of negative autocorrelation in a situation where the Durbin Watson statistics is equal to 4. Negative autocorrelation can be found when the Durbin-Watson statistic is greater than 2 but less than 4 ( $2 < d^* < 4$ ). Negative autocorrelation gets stronger the higher the value of the Durbin Watson statistics.

### **3.7.8 HYPOTHESIS TESTING AND DECISIONS**

The 0.05 significance level is what will be used for testing the hypothesis that is stated above. When the probability that makes the t-values significant is lower than the level of significance that we have chosen, we reject the null hypothesis. when the reverse is the case, we fail to reject the null hypothesis.

We fail to reject the null hypothesis when the probability (sig)  $> 0.05$

We reject the null hypothesis when the probability (Sig)  $< 0.05$

### **3.8 ANALYSIS OF DATA**

For the regression analysis we used Ordinary Least Square. Microsoft Excel was the software application that was used for the estimation. The results are presented in the next section of this dissertation and they cover the objective of the study.

### **3.9 CONCLUSION**

The methodology used in this thesis is in line with other studies on trade liberalization (Robinson, 2011; Mododou, 2007; Sulaiman, 2017; and Smith, 1776). The main intention of the research methodology is to provide conceptual grounding that is adequate at the same time holding to strategies that are precise and stable. Not forgetting the main goal at the end is to make a theoretical contribution that is noteworthy. Filling the gap that is left out in trade liberalization is what this dissertation intends in achieving. The major theme of the study was introduced in chapter 1, literature on trade liberalization was reviewed in the chapter 2, and then in chapter 3 a discussion on the approach and the research methodology was done. Our focus in the next chapter will be on result presentation and data analysis.



## CHAPTER 4

### 4.0 INTRODUCTION

Data analysis and the discussion of the findings is the focus of this chapter. The finding is from the regression of the data obtained from Annual Report, Statistical Bulletin and Statement of Account published by Central Bank of Nigeria (CBN, 2014). The conducted analysis is based on the research approach and the methodology discussed in the methodology chapter. This chapter will begin with the presentation of result, and then evaluate the models, the statistical and econometric criteria will be discussed as well. This chapter will end with hypothesis testing.

### 4.1 RESULTS PRESENTATION

### 4.2 LINEAR REGRESSION

The main reason for using linear regression in this session is to test the proficiency of two things, the first is to check if a set of independent variables predicts the dependent variable. The second is to check which variable are significant with the independent variable (Agbeyegbe, 2004). Below is the linear regression and the discussion of the results.

**FIGURE 1: GDP VERSUS IMPORT**



From the graph above of GDP versus Import, we have import which is the independent variable is on the x-axis, while Import the dependent variable is on the y-axis, we can also see that the relationship between GDP and Import is a positive relationship which does not comply with our a priori expectation. The slope of the regression line from model 1 is 0.0713, which means that for every unit increase in Import, the GDP will increase by 0.0713 Naira.

### MODEL 1: DATA ANALYSIS OUTPUT FOR GDP AND IMPORT

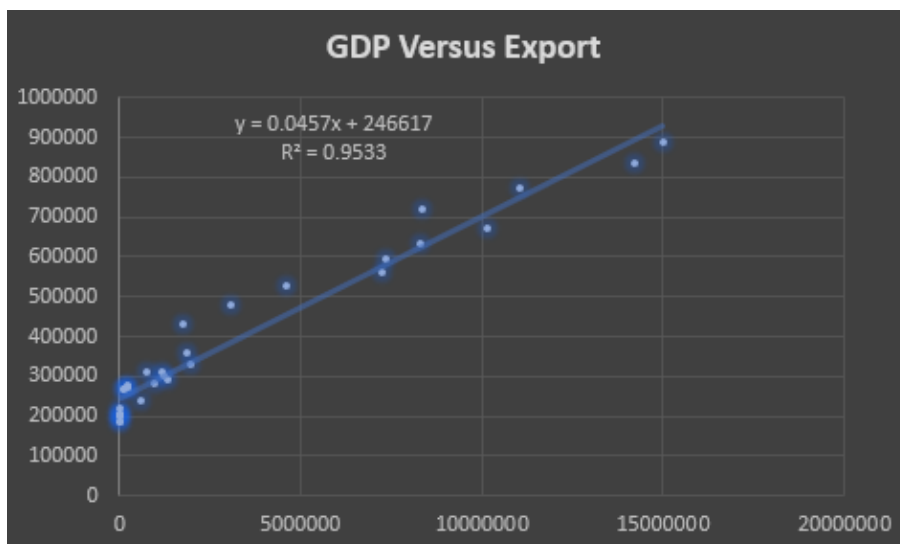
Metric	Value
R Square	0.9064
Adjusted R Square	0.9031
Coefficient of Import	0.0713
P-value of above coefficient	1.8766E-16

Form the table above we have an  $R^2$  of 90.64% which means the dependent variable and the independent variable are close to each other. An  $R^2$  of 90.64% means that 90.64% of the variation in GDP is accounted for by its regression on Import.

The value for adjusted  $R^2$  is 90.31% this shows that 90.31% of the total variation in GDP is explained or caused by the independent variation in the model.

The P-value from the regression analysis is 1.8766E-16 which is lower than 0.05, this means that the model is significant.

### FIGURE 2: GDP VERSUS EXPORT



From our graph in Model 2 above, we can see from the upward sloping regression line that the relationship between export and GDP is positive, which complies with our a priori expectation meaning that the more a nation exports the more powerful its GDP becomes. On the x-axis we have export as the independent variable and on the y-axis, we have GDP as the dependent variable. The slope of the regression is 0.0457, which means that for every unit increase in export the GDP will increase by 0.0457 Naira.

## MODEL 2: DATA ANALYSIS OUTPUT FOR GDP VERSUS EXPORT

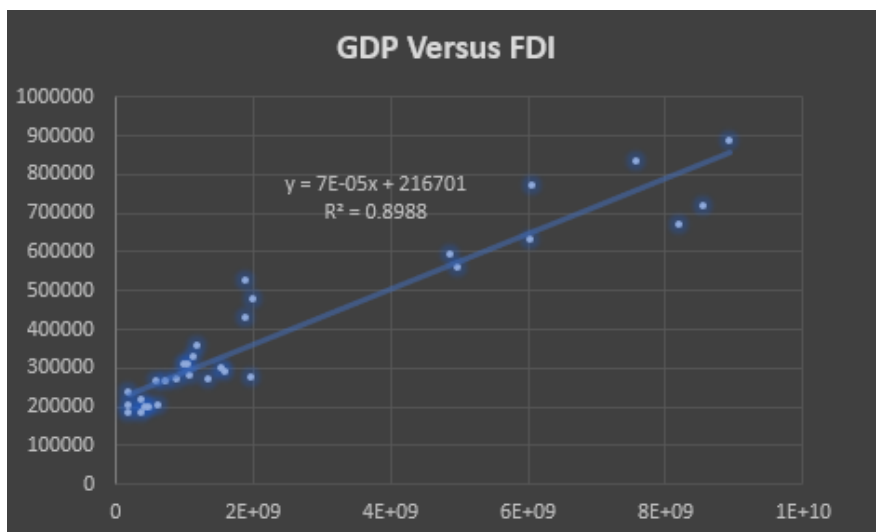
Metric	Value
R Square	0.9533
Adjusted R Square	0.9517
Coefficient of Export	0.0457
P-value of above coefficient	7.55986E-21

The value for  $R^2$  in the above table is 95.33% which means that the dependent and the independent variables are also close to each other in this case, it also means that 95.33% of the variation in GDP is accounted for by its regression on Export.

The value for adjusted  $R^2$  is 95.17% this shows that 95.17% of the total variation in GDP is explained or caused by the independent variation in the model.

We have a P-value of 7.55986E-21 which is less than 0.05, this means that the model is significant and can be used.

## FIGURE 3: GDP VERSUS FDI



The above graph is a graph of GDP Versus FDI, the upward sloping regression line indicates a positive relationship between GDP and FDI, this comply with our a priori expectation. On the X-axis we have FDI and on the Y-axis we have GDP. FDI is the independent variable while GDP is the dependent variable. The slope of the regression line is 0.00007, what this means is that for every unit increase in FDI the GDP will increase by 0.000007 Naira.

### MODEL 3: DATA ANALYSIS OUTPUT FOR GDP VERSUS FDI

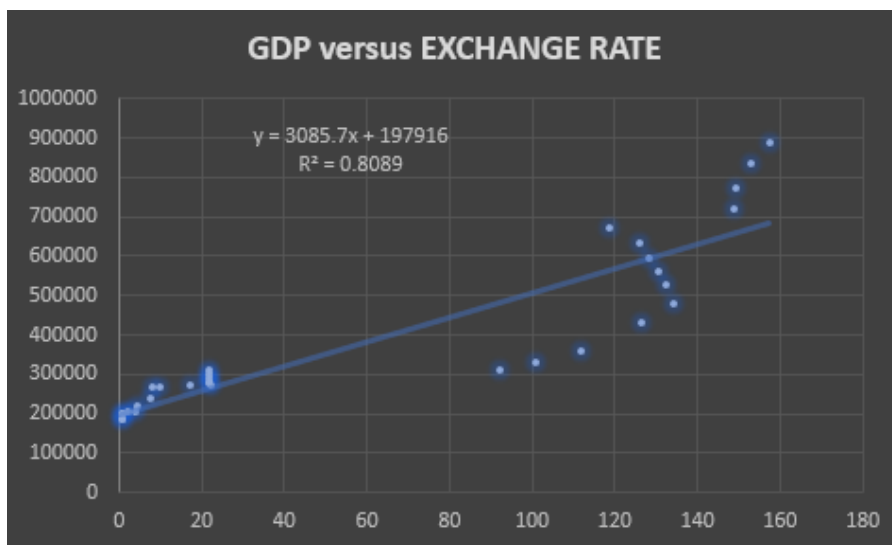
Metric	Value
R Square	0.8988
Adjusted R Square	0.8953
Coefficient of FDI	0.000007
P-value of above coefficient	5.8137E-16

The  $R^2$  for GDP versus FDI is 0.8988 or 89.88% which means the 89.88% of the variation in GDP is accounted for by its regression on FDI.

The Adjusted  $R^2$  is a bit lower than the  $R^2$  with a value 0.8953 this shows that 89.53% of the total variation in GDP is explained or caused by the independent variation in the model.

The P-value of GDP versus FDI is 5.8137E-16 which is less than 0.005 meaning that the model is significant and can be used based the P-value.

**FIGURE 4: GDP VERSUS EXCHANGE RATE.**



The graph above shows the regression of GDP and Exchange rate, on the X-axis we have exchange rate which the independent variable in the model and GDP on the Y-axis which is the dependent variable in the model. The slope of the regression line is going upward signifying a positive relationship between GDP and Exchange rate, but this does not comply with our a priori expectation, that is the more the exchange rate increases the lower the GDP of a nation and vice versa. The slope of the regression line from the above is 3088.7 which means that for every unit increase in exchange rate the GDP increases by 3088.7 Naira.

#### MODEL 4: DATA ANALYSIS OUTPUT FOR GDP VERSUS EXCHANGE RATE

Metric	Value
R Square	0.8089
Adjusted R Square	0.8023
Coefficient of Exchange Rate	3085.67
P-value of above coefficient	6.12942E-12

The  $R^2$  for GDP Versus Exchange Rate is 0.8089 which means that 80.89% which means that 80.89% of the variation in GDP is accounted for by its regression on Exchange Rate.

The adjusted  $R^2$  on the other hand has a value of 0.8023 which means that 80.23% of the total variation in GDP is explained or caused by the independent variation in the model.

The P-value of the regression of GDP and Exchange rate is 6.12942E-12 which is less than 0.05. This means that the model is significant and can be used based on the P-value.

#### FIGURE 5: GDP VERSUS INFLATION



The above graph displays the regression of GDP and Inflation, GDP which is the dependent variable is displayed on the Y-axis while Inflation which is the independent variable is displayed on the X-axis. We have a downward sloping regression line which indicate a negative relationship between GDP and inflation, this comply with our a priori expectation, meaning that when Inflation rate increases the GDP of a nation decreases and vice versa. The slope of the regression line is -3499.6 which means that for every unit increase in Inflation GDP will decrease by 3,499.6 Naira.

### MODEL 5: DATA ANALYSIS OUTPUT FOR GDP VERSUS INFLATION

Metric	Value
R Square	0.0896
Adjusted R Square	0.0582
Coefficient of Inflation	-3499.6
P-value of above coefficient	0.1018

From the regression of GDP and Inflation we got an  $R^2$  of 0.0896, which means that 8.96% of the variation in GDP is accounted for by its regression on Inflation.

In the case of the Adjusted  $R^2$  we have a value of 0.0582, which means that 5.82% of the total variation in GDP is explained or caused by the independent variation in the model.

The P-value obtained from the regression of GDP and inflation is 0.1018 which is higher than 0.05, this shows that the model is not significant, and we cannot use it based on the P-value.

### 4.3 MULTIPLE REGRESSION

In this section we will be dealing with multiple regression of the variables. The main reason for using multiple regression in this section is to point out the power of the impact that the independent variables have on the dependent variables, then to help in making a forecast of the impacts or effect of the changes and lastly the multiple regression will help in the prediction of future values and trends (Kim and Lin, 2012).

### MODEL 6 GDP VERSUS IMPORT AND EXPORT

Metric	Value	P-value
R Square	0.9533	-
Adjusted R Square	0.9500	-
Coefficient of Import	0.0010	0.9410
Coefficient of Export	0.0450	1.19182E-05
Significance F-Value	2.32306E-19	-

From model 6 above we have an  $R^2$  of 0.9533, which means the actual value and the predicted value are closed to each other, 95.33% of the variation in GDP is accounted for by its regression on Import and Export.

The Adjusted  $R^2$  of the regression of import and exports is 0.9500, which means that 95% of the total variation in GDP is explained or caused by the independent variation in the model.

The P-value shows that import is not significant. The coefficient of Export on the other hand is 0.0450, with a p-value of 1.19182E-05, which means that for every unit increase in Export the GDP of Nigeria will increase by 0.0450 Naira.

The Significance F-value from the regression of Import and Export is 2.32306E-19 which is less than 0.05 which means that the model is significant and can be used based.

**MODEL 7: GDP VERSUS IMPORT AND FDI**

Metric	Value	P-value
R Square	0.9456	-
Adjusted R Square	0.9417	-
Coefficient of Import	0.0389	3.54699E-05
Coefficient of FDI	3.59671E-05	0.00010991
Significance F-value	1.98039E-18	-

Model 7 displays the result obtained from the regression of Import and FDI, the regression has an R<sup>2</sup> of 0.9456, which means that 94.56% of the variation in GDP is accounted for by its regression on Import and Foreign Direct Investment.

The Adjusted R<sup>2</sup> of the regression of Import and Foreign Direct Investment is 94.17% which means that 94.17% of the total variation in GDP is explained or caused by the independent variation in the model.

The coefficient of Import from the regression of Import and FDI is 0.0389, with a corresponding P-value of 3.54699E-05 shows that import is significant, which means that for every unit increase in Import the GDP will increase by 0.0389 Naira, and FDI on the other hand has a coefficient of 3.59671E-05 with a corresponding P-value of 0.00010991 which shows that FDI is significant, which means that for every unit increase in FDI the GDP will increase by 3.59671E-05 Naira.

The Significance F-value that we got from the regression of Import and FDI is 1.98039E-18 which is less than 0.05, meaning that the model is significant for use.

**MODEL 8: GDP VERSUS IMPORT AND EXCHANGE RATE**

Metric	Value	P-value
R Square	0.9642	-
Adjusted R Square	0.9616	-
Coefficient of Import	0.0481	1.07853E-11
Coefficient of Exchange Rate	1345.1553	2.65093E-07
Significance F-value	5.67027E-21	-

From the regression of the Import and exchange rate, we got an  $R^2$  of 0.9642, which means that 96.42% of the variation in GDP is accounted for by its regression on Import and Exchange Rate

The Adjusted  $R^2$  from the regression of Import and Exchange Rate is 0.9616, what this means is that 96.16% of the total variation in GDP is explained or caused by the independent variations in the model.

The coefficient of import from the regression of Import and Exchange Rate is 0.0481 with a P-value of 1.07853E-11 shows that the import is significant, which means that for every unit increase in import the GDP increases by 0.0481 Naira.

Exchange Rate on the other hand has a coefficient of 1345 and a P-value of 2.65093E-07 shows that exchange rate is significant, which means that for every unit increase in Exchange Rate, the GDP of Nigeria will increase by 1,345 Naira.

From the regression of Import and Exchange Rate we got a very low Significance F-value of 5.67027E-21, which is less than 0.05 meaning that the model is significant and can be used based on the Significance F-value.

**MODEL 9: GDP VERSUS EXPORT AND FDI**

Metric	Value	P-value
R Square	0.9568	-
Adjusted R Square	0.9537	-
Coefficient of Export	0.0370	1.27995E-06
Coefficient of FDI	1.46693E-05	0.1440
Significance F-value	7.85843E-20	-

In model 9 above, from the regression of Export and FDI, we got an  $R^2$  of 0.9568, which means that 95.68% of the variation in GDP is accounted for by its regression on Export and FDI.

We also got a high Adjusted  $R^2$  of 95.37% which means that 95.37% of the total variation in GDP is explained or caused by the independent variations in the model.



The coefficient of Export from the regression is 0.0370 with a P-value of 1.27995E-06 showing that Export is significant, which means that for every unit increase in Export the GDP increase by 0.0370 %.

FDI on the other hand has a coefficient of 1.46693E-05 with a P-value of 0.1440 which means that FDI is not significant.

The Significance F-value obtained from the regression of GDP versus Export and FDI is 7.85843E-20, which is less than 0.05

**MODEL 10: GDP VERSUS EXPORT AND EXCHANGE RATE**

Metric	Value	P-value
R Square	0.9805	-
Adjusted R Square	0.9791	-
Coefficient of Export	0.0344	2.14881E-15
Coefficient of Exchange Rate	1002	9.72815E-07
Significance F-value	1.18289E-24	-

Model 10 has a R<sup>2</sup> of 0.9805, which means that 98.05% of the variation in GDP is accounted for by its regression on Export and Exchange Rate.

The Adjusted R<sup>2</sup> from the regression in model 10 above is 0.9791, which means that 97.91% of the total variation in GDP is explained or caused by the independent variations in the model.

The coefficient of the regression is 0.0344 with a P-value of 2.14881E-15, which means that for every unit increase in Export, the GDP will increase by 0.0344 Naira.

Exchange Rate on the other hand has a coefficient 1002 with a P-value of 9.72815E-07, which means that for every unit of increase in Exchange Rate, the GDP will increase by 1,002 Naira.

The Significance F-value we got from the regression in model 10 above is 1.18289E-24, which is less than 0.05, meaning that the model is significant and can be used for analysis based on the P-value.

**MODEL 11: GDP VERSUS FDI AND EXCHANGE RATE**

Metric	Value	P-value
R Square	0.9610	-
Adjusted R Square	0.9583	-

Coefficient of FDI	4.76957E-05	3.52281E-11
Coefficient of Exchange Rate	1384	2.89481E-07
Significance F-value	1.8348E-20	-

From the regression of Model 11 above we got an  $R^2$  of 0.9610, which means that 96.10% of the variation in GDP is accounted for by its regression on FDI and Exchange Rate.

For the Adjusted  $R^2$  we got a value of 0.9583, which means that 95.83% of the total variation in GDP is explained or caused by the independent variations in the model.

FDI from the regression has a coefficient 4.76957E-05 with a P-value of 3.52281E-11, which means that for every unit increase in FDI the GDP will increase by 4.76957E-05 Naira.

The coefficient of Exchange Rate on the other hand is 1384 with a P-value of 2.89481E-07, which means that for every unit of increase in Exchange Rate the GDP will increase by 1,384 Naira.

The Significance F-value from the regression is 1.8348E-20, which is a lot less than 0.05 when compared, meaning that the model is significant and is useful based on the P-value.

After running the regression of the variables, we bring the variables that are significant together and run a multiple regression as presented below:

**MODEL 12: GDP VERSUS IMPORT, EXPORT, FDI AND EXCHANGE RATE.**

Variable	Coefficient	T-Value	P-value
Constant	201859	19.34	3.46E-20
IMP	0.0131	1.601	0.088851
EXP	0.0166	2.204	0.026124
FDI	0.00001609	2.558	0.006538
EXR	1054.07	7.305	1.14E-07

$R^2 = 0.98636$

Adjusted  $R^2 = 0.98363$

DW = 1.4501

F =

361.5944

Significance F-value = 0.0000000

Replacing the result in the model we have:

$$GDP = 20.1859 + 0.0131IMP + 0.0166EXP + 0.00001609FDI + 1054.07EXR + \varepsilon$$

## 4.2 RESULTS EVALUATION

It is shown from Model 12 that only two parameters conform with our a priori expectation from the results presented above while the rest of the parameters did not comply with the a priori expectation, FDI and Export comply to a priori expectation while others did the opposite. The summarization of the result is showed on the table 4.2 below:

<b>Variable</b>	<b>Expected Sign</b>	<b>Obtained Sign</b>	<b>Remark</b>
<b>IMP</b>	-	+	<b>Does not comply</b>
<b>EXP</b>	+	+	<b>comply</b>
<b>FDI</b>	+	+	<b>comply</b>
<b>EXR</b>	-	+	<b>Does not comply</b>
<b>INF</b>	-	+	<b>Does not comply</b>

What we can observe from the table above is that the relationship between export and economic growth is positive which means that it complies with our a priori expectation, the ramifications of this is the higher the level of export in Nigeria, the higher the economic growth. The positive relation between Foreign Direct Investment and Economic Growth holds in Nigeria, what this means is that the higher level of Foreign Direct Investment we have in Nigeria the higher the Economic growth in Nigeria will be. The means the high level of foreign direct investment is productive, the foreign investors are helping in boosting the economy. That means Nigeria really needs Foreign Direct Investment based on the positive effect it has on the economic growth of the nation.

On the flip side, import has a positive relationship with economic growth, which does not conform with the a priori expectation of import having a negative relationship. This is because when import is high in an economy it is seen as a leakage from the economy which will hinder economic growth. But from another point of view this might be because Nigeria rely too much on imports, most of what is imported is heavy equipment and productive technology that is put into the production of more goods and services that also generate income for the country in the process this also improve the economy of Nigeria. From our a priori expectation, we expect Inflation to have a negative relationship with Economic Growth, but the relation turns out to be a positive relationship.

## ANALYSIS OF MODEL 12

### STATISTICAL CRITERIA.

### 4.3.2 The coefficient of determination ( $R^2$ )

What we got for the coefficient of determination from model 12 is 98.636%. This means that 98.636% of the total variation of GDP is explained by the variables found in the model. This reveals that the explanatory power of the variables found in the model is very high.

### 4.3.3 The Adjusted $R^2$

The adjusted  $R^2$  from model 12 is supporting the claim of the  $R^2$  with a value of 98.363% this shows that 98.363% of the total variation in GDP is explained or caused by the independent variation in the model.

### 4.3.4 The F-Test (Model 12)

$H_0$ : the variables in the model have no significant impact on GDP

$H_1$ : the variables in the model have significant impact on GDP

The decision rule:

Reject  $H_0$  if  $F\text{-cal} > F\alpha (k-1, n-k)$  at  $\alpha = 5\%$ ; otherwise fail to reject  $H_0$

The F critical value from the F-table is  $F\alpha (k-1, n-k)$

Where the sample size as denoted by  $n = 30$

The number of parameters  $k = 6$

$$F_{0.05(6-1, 30-6)} = 2.62065$$

When the  $F\text{-cal} = 36.15944$

From the results  $36.15944 > 2.62065$ , we reject  $H_0$ . Which means the model explanatory power influences the dependent variable (GDP) strongly. Another way to say it is that when the F-calculated is very high it is a confirmation of the overall significance of the coefficient of the explanatory variables and also proves that the explanatory variables and GDP is sufficiently explained by the model.

## 4.6 The T-Test

What we are going to do here is compare the estimated or calculated t-statistic with the t-value from the table (critical-t).

H<sub>0</sub>: the variable has no significant effect with GDP

H<sub>1</sub>: the variable has significant effect on GDP

Decision Rule: Reject H<sub>0</sub> if  $t\text{-cal} > t_{\alpha/2}$ ; otherwise fail to reject H<sub>0</sub>. The results are displayed on the table below.

Table 4.3 the t-test results from model 12

<b>Variables</b>	<b>T Calculated</b>	<b>Critical Value</b>	<b>Conclusion</b>
<b>IMP</b>	1.601	2.042	<b>Do not Reject H<sub>0</sub></b>
<b>EXP</b>	2.204	2.042	<b>Reject H<sub>0</sub></b>
<b>FDI</b>	2.558	2.042	<b>Reject H<sub>0</sub></b>
<b>EXR</b>	7.305	2.042	<b>Reject H<sub>0</sub></b>
<b>INF</b>	1.0421	2.042	<b>Do not Reject H<sub>0</sub></b>

From the results displayed on the table above, Export, FDI and Exchange rate have significant relationship with Economic Growth (GDP) in Nigeria. In other words, their influence on GDP is significant while Import and Inflation are non-significant statistically. Therefore, their effect on GDP is not significant (they do not contribute to the changes in GDP in Nigeria).

#### **4.7 ECONOMETRIC CRITERIA**

The Durbin-Watson Statistic

The Durbin-Watson statistic is used in testing for autocorrelation in model 12. The Durbin-Watson statistic is 1.4501 from the regression result. This implies that there is positive autocorrelation since the  $d^*$  is less than 2 but greater than 0.

#### **4.8 HYPOTHESIS TESTING**

The t-test was done so as to test the hypothesis of the study. Section 4.3.2 shows this but a discussion on this will be done based on their effect on our hypothesis from the values obtained from model 12.

##### **4.8.1 Hypothesis One**

For import the T-calculated (1.601) is lower than the Critical T (2.04). That means the null hypothesis is not rejected which make us conclude that Import has no significant connection with GDP. Since import does not affect GDP significantly this does not really matter.

#### **4.8.2 Hypothesis Two**

For export the t-calculated (2.204) is higher than the critical t (2.04). That means the null hypothesis will be rejected. Therefore, export has a significant relation with GDP. In accordance with the value of the coefficient of export (0.0166) we can state clearly that the relationship between export and GDP is positive and that an increase in export by 1% will lead to an increase in GDP by 0.0166 Naira.

#### **4.8.3 Hypothesis Three**

For FDI the t calculated (2.558) is higher than the critical t (2.04). this leads to rejecting the null hypothesis. That means the relationship between Foreign Direct Investment and GDP is significant. In accordance with the coefficient of foreign direct investment (0.00001609) we can state clearly that the relationship between foreign direct investment and GDP is a positive relationship, and an increase in foreign direct investment by 1 % will lead to an increase in GDP by 0.00001609 Naira.

#### **4.8.4 Hypothesis Four**

For Exchange rate the t calculated (7.305) is higher than the t critical (2.04), leading to the rejection of the null hypothesis which implies that exchange rate has a significant relationship with GDP. Although from the coefficient of exchange rate (10.5407) from the regression, a 1% increase in Exchange rate will lead to 10.5407 Naira increase in GDP.

#### **4.9 CONCLUSION**

In the section that was just completed, the analysis of the data that was obtained from Central Bank of Nigeria Statistical bulletin as well as the World Bank data were analysed, the section started with the presentation of result, followed by evaluation of the result, we then proceed to the statistical criteria were we carried tests like the coefficient of determination, adjusted  $R^2$ , the F-test as well as the T-test. We then move to discuss the econometric criteria which has to do with the Durbin Watson statistic, and then we ended the chapter with hypothesis testing.

## **CHAPTER 5**

### **5.1 SUMMARY OF THE FINDINGS**

The main objective of this study is on the overall impact of trade liberalization on Economic growth of Nigeria. The regression technique that was applied is Ordinary Least Squares to find out the effect of trade liberalization on economic growth in Nigeria.

It was observed that three of the variables (Export, FDI and Exchange rate) from the result of regression have significant relationship with GDP in Nigeria, while Imports and Inflation do not have a significant relationship with GDP, in ascertaining this the multiple regression technique was used.

Precisely, the following are the findings which provide answers to the research questions that was asked in chapter 1:

- ✓ Analysing Hypothesis 1, we found out that Import is not significant.
- ✓ Evaluation of Hypothesis 2, we found out that export and GDP have a significant positive relationship, suggesting that the economic growth will improve with higher export. And what we discovered from the coefficient is that 1 Naira increase in export will lead to a 0.0166 Naira increase in GDP.
- ✓ What we find from Hypothesis 3 is that a significant positive relationship exists between Foreign Direct Investment (FDI) and GDP. The implication of this is that economic growth in Nigeria increases as FDI increases. An increase in FDI by 1 Naira will lead to an increase in Economic Growth by 0.00001609 Naira.
- ✓ In Hypothesis 4, what we found out is that the relationship between exchange rate and GDP is a significant positive relationship. If the Exchange rate increase by 1 Naira, Economic Growth will increase by 10.5407 Naira.

### **5.2 DISCUSSION BASED ON THE FINDINGS**

Five variables were modelled in the model 12, two (Import and Inflation) out of the five variables were discovered to be non-significant which means they do not matter when accounting for the changes in Nigeria's GDP. The proposition based on theory that these variables hold in Nigeria does not hold.

Export, Foreign Direct Investment and Exchange Rate all bring about changes in Nigeria's GDP which makes them significant. They all have a positive relationship with GDP based on the result obtained.

Export and foreign direct investment comply to the a priori expectation, they both have positive relationship with GDP. That means policies should be put in place for the encouragement of export.

The variables that fail to comply with the a priori expectation is Import, Exchange Rate and Inflation. As obtained from model 12, Import has a positive influence on GDP in Nigeria which suggests the encouragement of import is productive as well as preventing dumping and unhealthy competition with domestic firms through careful regulation of import. There is no significant effect of Inflation on Economic growth.

### **5.3 RECOMMENDATIONS**

After putting what we found from the study into consideration, the following recommendations are proposed by the author, for higher output growth in the economy to be achieved.

#### **5.3.1 Import Regulation**

The fact that the relationship between import and economic growth is positive in Nigeria, that means allowing it is good. But the economy must be careful not to depend too much on the international sector in order to prevent dumping and stifling of domestic industries as well as exploitation. Technology is the major problem of Nigeria. Support should be given to the youth to develop themselves and get such skills so that they can contribute to Nigeria in the area of technology and innovation so that the dependence of Nigeria to other country for technology and other technological related commodity will stop. Nigerian excessive spending should be curtailed reason being that foreign good is what they tend to consume more. Higher taxes should be placed on imported goods to reduce excessive importation.

#### **5.3.2 Inward Looking Strategy Adoption**

The natural and human resources that Nigeria is blessed with has to be efficiently harnessed, the country should make good use of the little they have instead of looking elsewhere for what other countries have. The Agricultural and industrial spirit of Nigerians should be awakened. Nigeria should put a stop to import too much goods and services.



### **5.3.3 Enabling Environment for Domestic Production and Export Should Be Provided**

Policy makers should make arrangement for an enabling environment for more export because economic growth in Nigeria is driven by export. To be specific, there should be establishment of more export free zones. The Government should allocate to the export sector more credit and stop concentrating on trade barriers because trade barrier can take care of itself once there is improvement in technology. There should be broadening of the capital base of Nigerian Export Import Bank, this will bring about an increase in the credit of export for overall export growth. The necessary infrastructure that thriving industry need must be provided. Electricity is a good starting point.

### **5.3.4 The Cost of Borrowing Should Be Reduced**

Policies to reduce the cost of borrowing to businessmen and industrialists who are involved in domestic and international trade should be implemented by the Central Bank. Manufacturers are discouraged from borrowing when there is high cost of funds. For exporters and manufacturers to take loan for the purpose of production a policy should be put in place to reduce the lending rate.

### **5.3.5 Diversifying the Revenue Base**

The main trading component of the trading activity of Nigeria is oil export. In the export of Nigeria, oil export comprises of 70% , even if the contribution of oil export to the economy of Nigeria is positive it is not going to be high for ever, it might fall because of technological advancement and due to the fact that the price of crude oil fluctuate all the time and the country that is suppling cannot control it because of the quota system by Organization of Petroleum Exporting Countries (OPEC). A policy should be put in place to reduce oil export so that room can be created for the exportation of other goods and services. There is huge potential in agriculture therefore Nigeria should reawaken it agricultural spirit. For Nigeria to be able to process the raw materials and then develop an alternative use for them, they should learn and embark a research and development as well as advance technology.

### **5.3.6 Restore the Export Processing Zones (EPZ)**

The establishment of export processing zone is not enough. There should be encouragement of foreign investment in the export processing zone and the drive for privatization should be intensified. The Ministry of Foreign Affairs and the Ministry of Trade and Investment should encourage foreign investors to know how profitable it is to invest in Nigeria's export processing zone.

### **5.3.7 Creation of a Socio-Political Atmosphere That Is Peaceful.**

The country should have a socio-political atmosphere that is friendly and welcoming because without this no meaningful productive activity can be embarked on. This dissertation is drawing the attention of the government to their main function: to make sure lives and property are well protected. Based on this the terrorism of 'Boko-Haram' must be fought and defeated to pave way for foreign and domestic investors to go on their business activities in peace.

## **5.4 FINAL CONCLUSION**

The examination of how important trade liberalization is to economic growth in Nigeria is the intention of embarking on this dissertation. We discovered some interesting facts in the course of the dissertation. Although they are not completely new, the fact that import, and export positively and significantly impact economic growth in Nigeria is the most important discovery that was made. That means trade liberalization is very important and beneficial to the economy. Just like a double-edged sword trade liberalization should be handled with care. Even though we allow trade (i.e. Export and Import) for trade to contribute meaningfully to economic growth in Nigeria it should be properly regulated.

In line with the above, this dissertation provided various recommendations to deal with the issues that hinder trade in Nigeria. If effort is not made on the part of the government to implement the strategies suggested that makes this dissertation just a mere exercise.

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## APPENDIX

Note: The Unit of measurement of the variables is Naira.

YEAR	GDP	IMP	EXP	FDI	EXR	INF
1982	199685	10770.5	8206.4	430611257	0.6729	7.7
1983	185598	8903.7	7502.5	364434580	0.7241	23.2
1984	183563	7178.3	9088	189164785	0.7649	17.8
1985	201036	7062.6	11720.8	485581321	0.8938	7.4
1986	205971	5983.6	8920.6	193214908	2.0206	5.7
1987	204807	17861.7	30360.6	610552092	4.0179	11.3
1988	219876	21445.7	31192.8	378667098	4.5367	54.5
1989	236730	30860.2	579711.2	188424974	7.3916	7.3
1990	267550	45717.9	109886.1	587882971	8.0378	13
1991	265379	89488.2	121535.4	712373363	9.9095	44.5
1992	271366	143151.2	205611.7	896641283	17.2984	57.1
1993	274833	165629.4	218770.1	1345368587	22.0511	57
1994	275451	162788.8	206059.2	1959219858	21.8861	72.8
1995	281407	755127.7	950661.4	1079271551	21.8861	29.3
1996	293745	562626.6	1309543	1593459222	21.8861	8.5
1997	302023	845716.6	1241663	1539445718	21.8861	9.9
1998	310890	837418.7	751856.7	1051326217	21.886	6.6
1999	312184	862515.7	1188970	1004916719	92.3428	6.9
2000	329179	985022.4	1945723	1140137660	100.802	18.7
2001	356994	1358180	1867954	1190630240	111.701	12.9
2002	433204	1512695	1744178	1874042130	126.2577	14
2003	477533	2080235	3087886	2005390033	134.0378	14.9
2004	527576	1987045	4602782	1874033035	132.3704	17.9
2005	561931	2800856	7246535	4982533937	130.6016	8.2
2006	595822	3108519	7324681	4854416888	128.2796	5.4
2007	634251	3911953	8309758	6034971269	125.88	11.6
2008	672203	5189803	10161490	8196606691	118.86	11.5
2009	718977	5102534	8356386	8554840780	148.73	13.7
2010	775526	8005374	11035795	6048560295	149.17	7
2011	834001	10235174	14240232	7556606678	152.9438	10.8
2012	888893	9109033	15002868	8930215622	157.4994	12